

APR 18 1967

April 14, 1967

Professor Joshua Lederberg  
Department of Genetics  
Stanford University  
Palo Alto, California

Dear Josh:

I would like to bring you up-to-date on some activities at Wisconsin aimed at developing a computer utility with high availability, ready access and rapid interaction between the utility and the user. After long and careful design, study and comparison of alternate possibilities, we are moving ahead towards acquisition of a Burroughs B 8500 time-sharing computer which can handle 700 teletype and small oscilloscope terminals by ordinary telephone line connections, 50 terminals with intermediate data rate transmission from tape storage and 10 high-speed, high data rate satellite computer installations which interact with the central machine for multi-programming operations and for data smashing needs. The facility will have multi-programming so that many users will believe that their program is in the machine at all times and will communicate with it rapidly as if they were the sole user. In addition, there will be provisions for machine to user communication during program development so that the program is checked, tested and corrected rapidly as written. We feel confident that with the system under design a user will learn the concept of programming at much greater speed than under present modes of operation. He will correct his errors immediately and upgrade the quality of his programming with great efficiency.

This Burroughs B8500 complex is a moderate sized version of the 2500 terminal unit which Barclay's Bank in England has just ordered for \$32 million dollars. In addition, United States Steel has a \$20 million dollar order and the U. S. Navy is working on an order to be placed soon. The package that we have developed will be on a slightly smaller scale but still enormous compared to anything we have previously attempted. Our capital plus operations commitment is 21 million dollars in the next four years. This includes \$12 million dollars of new hardware. As you can well appreciate raising these kinds of funds for a central utility (to be shared by many users and many agencies) is a concept that has not been fully sold to federal supporting agencies. We are convinced that the interaction with the students, the rate of training and the utility of this computer to the University and State will be far greater than an equivalent amount of capital invested in many small installations.

*sent copy to Jorgensen*

Prof. Joshua Lederberg

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The National Science Foundation has already indicated their willingness to participate in this development, although at a somewhat smaller level than we would like. We are now attempting to convince the National Institutes of Health and the Office of Education of the involvement that they should have in such a utility. NASA has indicated to us that they support the concept and are anxious to have their local users participate in it but that they are unable to directly participate in the development of the Center except through existing small grants on the campus.

I would like to solicit your help in convincing Federal Agencies of the need for such developments if we are to realize the potential impact of computers on science and education. I will appreciate any feed-back you can give me or suggestions on actions I should take to help promote general federal support for this type of enterprise.

Best regards.

Sincerely yours,



Robert M. Bock  
Dean

RMB/d